VENOUS THROMBOEMBOLISM POLICY

To be read in conjunction with the

DVT (Deep Vein Thrombosis) and PE (Pulmonary Embolism) Policy,

Admission, Transfer and Discharge Policy and Rapid Tranquilisation Policy

<table>
<thead>
<tr>
<th>Version:</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratified by:</td>
<td>Senior Managers Operational Group</td>
</tr>
<tr>
<td>Date Ratified:</td>
<td>April 2015</td>
</tr>
<tr>
<td>Title of Originator/Author:</td>
<td>Interim Lead for Clinical Practice</td>
</tr>
<tr>
<td>Title of Responsible Committee/Group:</td>
<td>Clinical Governance Group</td>
</tr>
<tr>
<td>Date issued:</td>
<td>May 2015</td>
</tr>
<tr>
<td>Review date:</td>
<td>March 2018</td>
</tr>
<tr>
<td>Relevant Staff Group/s:</td>
<td>Clinical staff in inpatient mental health wards and community hospitals, district nursing teams, cardiac rehabilitation and stroke teams.</td>
</tr>
</tbody>
</table>

This document is available in other formats, including easy read summary versions and other languages upon request. Should you require this please contact the Trust’s Equality and Diversity Lead on 01278 432000
Document Objectives: The purpose of this policy is to ensure that all patients admitted to Somerset Partnership NHS Foundation Trust Hospitals are formally assessed and where appropriate measures are taken to reduce their likelihood of developing a venous thromboembolism. Children and Obstetric patients undergoing a caesarean section are excluded from this policy.

To ensure that all patients prescribed anti-embolic stockings are assessed, fitted and evaluated to minimise complications.

Intended recipients: Somerset Partnership NHS Foundation Trust Health Staff as per front sheet.

Committee/Group Consulted: Community Hospital Best Practice Group, Clinical Policy Review Group, Clinical Governance Group, Executive Management Team

Monitoring arrangements and indicators: This policy will be reviewed every three years or earlier if information changes or new guidance is issued.

Training/resource implications: E-learning is available and can be facilitated by the Clinical Practice Team on request.

Amendments: Amended in 2012 post acquisition to reflect integrated organisation, further reviewed by Clinical Audit facilitator, amalgamated with anti-embolic stocking policy. Further amendments following the new technology appraisals for Rivaroxaban and Dabigatran. Amendments following addition of MH leaflet April 2015 – updated to include changes in assessment requirements for mental health and community health.
## CONTRIBUTION LIST

Key individuals involved in developing the document

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation or Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nina Vinall</td>
<td>Senior Nurse for Clinical Practice</td>
</tr>
<tr>
<td>Lisa Stone</td>
<td>Interim Lead for Clinical Practice</td>
</tr>
<tr>
<td>Alan Chedzoy</td>
<td>Modern Matron, Broadway Health Park</td>
</tr>
<tr>
<td><strong>Group Members</strong></td>
<td></td>
</tr>
<tr>
<td>Community Hospital Best Practice Group</td>
<td></td>
</tr>
<tr>
<td>Clinical Policy Review Group</td>
<td></td>
</tr>
<tr>
<td>Clinical Governance Group</td>
<td></td>
</tr>
<tr>
<td>Executive Management Team</td>
<td></td>
</tr>
<tr>
<td>Kay Southway</td>
<td>Clinical Audit Lead</td>
</tr>
<tr>
<td>Jean Glanville</td>
<td>Claims and Litigation Manager</td>
</tr>
<tr>
<td>Sue Balcombe</td>
<td>Director of Nursing and Patient Safety</td>
</tr>
<tr>
<td>Andrew Brown</td>
<td>Head of Medicines Management</td>
</tr>
<tr>
<td>Helen McEvansoneya</td>
<td>Modern Matron Older Persons Mental Health Services</td>
</tr>
<tr>
<td>Andrew Sinclair</td>
<td>Head of Corporate Business</td>
</tr>
<tr>
<td>Section</td>
<td>Summary of section</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Doc</td>
<td>Document Control</td>
</tr>
<tr>
<td>Cont</td>
<td>Contents</td>
</tr>
<tr>
<td>1</td>
<td>Introduction</td>
</tr>
<tr>
<td>2</td>
<td>Purpose and Scope</td>
</tr>
<tr>
<td>3</td>
<td>Duties and Responsibilities</td>
</tr>
<tr>
<td>4</td>
<td>Explanations of Terms Used</td>
</tr>
<tr>
<td>5</td>
<td>Statement of Policy and Guidance</td>
</tr>
<tr>
<td>5.1</td>
<td>Patient information and Consent</td>
</tr>
<tr>
<td>5.3</td>
<td>Patient Risk Assessment</td>
</tr>
<tr>
<td>5.5</td>
<td>Care pathway</td>
</tr>
<tr>
<td>5.6</td>
<td>Documentation for Mental Health – Electronic</td>
</tr>
<tr>
<td>5.8</td>
<td>Documentation for Community Health – Paper</td>
</tr>
<tr>
<td>5.11</td>
<td>Prophylactic measures against VTE</td>
</tr>
<tr>
<td>5.17</td>
<td>Management of DVT/PE</td>
</tr>
<tr>
<td>6</td>
<td>Training and Competency Assessment</td>
</tr>
<tr>
<td>7</td>
<td>Equality Impact Assessment</td>
</tr>
<tr>
<td>8</td>
<td>Monitoring Compliance and Effectiveness</td>
</tr>
<tr>
<td>9</td>
<td>Counter Fraud</td>
</tr>
<tr>
<td>10</td>
<td>Care Quality Commission Regulations</td>
</tr>
<tr>
<td>11</td>
<td>References, Acknowledgements and Associated Documents</td>
</tr>
<tr>
<td>12</td>
<td>Appendices</td>
</tr>
<tr>
<td>Appendix A</td>
<td>Risk Assessment for VTE</td>
</tr>
<tr>
<td>Appendix B</td>
<td>Risk Assessment for Venous Thromboembolism for CH Directorate</td>
</tr>
<tr>
<td>Appendix C</td>
<td>VTE Prophylaxis Treatment Algorithm for General Medical patients</td>
</tr>
<tr>
<td>Appendix D</td>
<td>VTE Prophylaxis Treatment Algorithm for Patients Admitted for Stroke</td>
</tr>
<tr>
<td>Appendix E</td>
<td>VTE Prophylaxis Treatment Algorithm for Patients with Cancer and with Central Venous Catheter</td>
</tr>
<tr>
<td>Appendix F</td>
<td>VTE Prophylaxis Treatment Algorithm for Patients in Palliative Care</td>
</tr>
<tr>
<td>Appendix G</td>
<td>VTE Prophylaxis Treatment Algorithm for Patients for Non-Orthopaedic Surgery</td>
</tr>
<tr>
<td>Appendix H</td>
<td>VTE Prophylaxis Treatment Algorithm for Patients for Orthopaedic Surgery - continued</td>
</tr>
<tr>
<td>Appendix I</td>
<td>VTE Prophylaxis Treatment Algorithm for Patients for Orthopaedic Surgery - continued</td>
</tr>
<tr>
<td>Appendix J</td>
<td>VTE Prophylaxis Treatment Algorithm for Patients for Major trauma or spinal injury</td>
</tr>
<tr>
<td>Section</td>
<td>Summary of section</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Appendix K</td>
<td>VTE Prophylaxis Treatment Algorithm for Patients for Lower Limb Plaster Casts</td>
</tr>
<tr>
<td>Appendix L</td>
<td>VTE Prophylaxis Treatment Algorithm for Patients for Pregnancy and up to six weeks post partum</td>
</tr>
<tr>
<td>Appendix M</td>
<td>Fact Sheet – Reducing the risk of blood clot</td>
</tr>
<tr>
<td>Appendix N</td>
<td>Fact sheet – Self administration of Enoxaparin</td>
</tr>
<tr>
<td>Appendix O</td>
<td>Fact Sheet – Anti-Embolic Stockings</td>
</tr>
<tr>
<td>Appendix P</td>
<td>Audit Standards for Mental Health Directorate</td>
</tr>
<tr>
<td>Appendix Q</td>
<td>Venous Thromboembolism (VTE) Audit Tool for Community Health Directorate</td>
</tr>
<tr>
<td>Appendix R</td>
<td>Anti-Embolic Stockings</td>
</tr>
<tr>
<td>Appendix S</td>
<td>Competency Framework and Competency Assessment – Level 1</td>
</tr>
<tr>
<td>Appendix T</td>
<td>Competency Framework and Competency Assessment – Level 2</td>
</tr>
<tr>
<td>Appendix U</td>
<td>Competency Framework and Competency Assessment – Level 3</td>
</tr>
<tr>
<td>Appendix V</td>
<td>Competency Framework and Competency Assessment – Level 4</td>
</tr>
</tbody>
</table>
1. INTRODUCTION

1.1 The purpose of this policy is to ensure that all patients admitted to Somerset Partnership NHS Foundation Trust Hospitals are formally assessed and where appropriate measures are taken to reduce their likelihood of developing a venous thromboembolism (VTE). Children and Obstetric patients undergoing a caesarean section are excluded from this policy.

1.2 This policy has been introduced following NICE guidance (CG 046, 2007), Chief Medical Officer letter (CEM/CMO/2007/10) and Department of Health Newsletter September 2008 (www.dh.gov/news/). Further revision undertaken following the NICE guidance ‘Venous thromboembolism: reducing the risk’ January 2010 and NICE Technology Appraisal guidance 157 and 261.

1.3 Venous thromboembolism (VTE) is a condition in which a blood clot (thrombus) forms in a vein. It most commonly occurs in the deep veins of the legs; this is called deep vein thrombosis. The thrombus may dislodge from its site of origin to travel in the blood – a phenomenon called embolism (NICE CG 092, 2010)

1.4 It is the responsibility of the admitting doctor or nurse practitioner (community hospitals) and admitting nurse (mental health) to ensure compliance with this policy.

1.5 This policy supersedes all prior relevant clinical and non-clinical Policies, Protocols and Guidelines within Somerset Partnership NHS Foundation Trust.

1.6 The only exemptions to this policy are patients admitted as a day case for blood transfusions, administration of intravenous antibiotics or maintenance of a central line when their length of stay is less than 24 hours. Another exemption is if nursing care only is being given for an external provider activity, e.g. flexible cystoscopies. If the patient remains as an inpatient after 24 hours then a full risk assessment must be completed. ALL other admissions apply.

1.7 Staff should ensure the patient is able to understand the information given to them and are able to give their informed consent. This may necessitate the use of a professional interpreter and the translation of written information. A capacity assessment should be considered for those patients who are unable to consent to the procedure and reference should be made to the relevant Trust policy.

2. PURPOSE AND SCOPE

2.1 To ensure all patients admitted to Somerset Partnership NHS Foundation Trust hospitals are formally assessed and measures are taken to reduce their likelihood of developing a venous thromboembolism whilst in the community hospitals and in the community in line with National Guidance.
2.2 Anti-Embolic stockings help prevent deep vein thrombosis (DVT) by increasing venous blood flow and reduced venous stagnation. Their use, particularly in post operative patients, is reported to lower the risk of DVT (Amaregiri et al 2001).

2.3 If stockings are correctly fitted and applied they are safe, effective and non-invasive therapy. However, inappropriate use can be dangerous. Patients with Peripheral Vascular Disease and Diabetes are prone to circulatory problems with can be exacerbated by inappropriate application of anti-embolic hosiery.

3. **DUTIES AND RESPONSIBILITIES**

3.1 The **Trust Board** has a duty to care for patients receiving care and treatment from the Trust and has overall responsibility for procedural documents and delegates responsibility as appropriate.

3.2 The **Lead Director** is the **Director of Nursing and Patient Safety** with devolved responsibility for the implementation of this policy.

3.3 The **Identified Lead (Author)** is the **Senior Nurse for Clinical Practice** who will be responsible for producing written drafts of the document and for consulting with others and amending the draft as appropriate.

3.4 **Heads of Service/Senior Managers** have responsibility for implementing this policy and for ensuring high standards of clinical healthcare within the service for which they have overall responsibility and to ensure adherence to this policy.

3.5 The **Learning and Development Department** will ensure the necessary e-learning is available for VTE and training for anti-embolic stockings.

3.6 **Line Managers** will ensure that staffs are adhering to this policy and are trained appropriately according to the Mandatory Staff Training Matrix and the Anti-Embolic Stockings competencies.

3.7 **All staff including temporary staff** are individually responsible for their actions including complying with this policy and undertaking any training/competencies in line with the Mandatory Training matrix (see section 8).

3.8 **The Clinical Effectiveness Team** are responsible for undertaking clinical audits as scheduled within the clinical audit plan.

3.9 **The Clinical and Social Care Effectiveness Group** is responsible for overseeing the implementation of any clinical audit recommendations with
operational services being responsible for ensuring that all audit actions are fully implemented in a timely manner.

3.10 The Clinical Governance Group is responsible for approving this policy and will ensure it is reviewed at least every three years or sooner in line with local and/or national requirements. The Group is responsible for the overall monitoring of the Clinical Audit plan.

4. EXPLANATIONS OF TERMS USED

4.1 Venous Thromboembolism - Venous thromboembolism (VTE) is a condition in which a blood clot (thrombus) forms in a vein.

4.2 Deep Vein Thrombosis (DVT) – is the formulation of a blood clot in the large vein, most commonly in the large vein of the leg.

4.3 RiO - Electronic Patient Record

4.4 RN – Registered Nurse

4.5 ‘Off Label’ (Please refer to Medicines Policy)

5. STATEMENT OF POLICY AND GUIDANCE

Patient Information and Consent

5.1 All patients admitted to hospital will receive a factsheet relating to the prevention of thromboembolism “Reducing the risk of a blood clot” (Appendix M – Community Health Patients, Appendix N – Mental Health Inpatients). This information will be used to obtain verbal consent from the patient allowing healthcare staff to assess and where necessary provide prophylactic treatment to the patient to reduce the risk of venous thromboembolism.

5.2 Hospital medical and nursing staff will be completely familiar with the patient information provided allowing them to be able to answer general questions that may arise while obtaining verbal consent. In order to gain informed consent an interpreter may need to be considered with consideration for patients who lack capacity to consent. Procedures and risks should be explained to patients at all times in a language and format they can easily understand.

Patient Risk Assessment

5.3 In patients within Community Hospitals and older persons Mental Health Units must be assessed using the approved venous thromboembolism risk assessment tool on admission and again at 24 hours from admission undertaken by the Nurse. Reassessment is indicated at any point within an inpatient stay if the patient’s physical condition or mobility deteriorates.
Remaining Mental Health inpatients must have a Venous Thromboembolism (VTE) risk assessment conducted on admission by the admitting nurse/medical staff but will only require a second assessment in 24 hours if risk issues are identified, then it is the responsibility of medical staff to complete the second assessment. Reassessment is also indicated at any time within an inpatient stay that the patient’s physical condition or mobility deteriorates.

**Care Pathway for Older Persons Mental Health and Community Hospital Inpatient Wards**

This assessment must be repeated by those responsible above following any change in the patient’s clinical situation.

- **Assess patient on admission**
  - Assess VTE risk
    - To be completed by admitting RN or medical staff
  - Assess bleeding risk
    - To be completed by admitting RN or medical staff
  - Balance risks of VTE and bleeding.
    - Offer VTE prophylaxis if appropriate.
    - To be completed by medical staff within 24 hours of admission
    - Do not offer pharmacological VTE prophylaxis if patient has any risk factors for bleeding and risk of bleeding outweighs risk of VTE
  - **Reassess** risk of VTE and bleeding **within 24 hours** of admission and whenever clinical situation changes
    - To be completed by GP and documented in the medical notes

**For all patients**

- do not allow patients to become dehydrated unless clinically indicated
- encourage patients to mobilise as soon as possible
• do not regard aspirin or other antiplatelet agents as adequate prophylaxis for VTE
• consider offering temporary inferior vena cava filters to patients who are at very high risk of VTE (such as patients with a previous VTE event or active malignancy) if mechanical and pharmacological VTE prophylaxis contraindicated

Electronic Documentation

5.6 This will be recorded on RiO within the Physical Health/Examination section of the RiO Core Assessment.

5.7 For those patients assessed as high risk, they must have completed, without exception the paper assessment (see Appendix A) for venous thromboembolism. This then must be uploaded into documents, other assessment report (OAR) on RiO. All patients identified to be at risk of VTE will require assessment for risk of bleeding. This will be recorded on Risk Assessment for VTE paper form (Appendix A) which then must be uploaded into documents Other Assessment Report, recorded as an alert (physical health condition) and then within the RiO care plan.

Paper Documentation

5.8 The initial part of the risk assessment is at the beginning of the Risk Assessment for Venous Thromboembolism (VTE) form (Appendix A), as detailed below;

<table>
<thead>
<tr>
<th>Mobility – all patients (tick one box)</th>
<th>Tick</th>
<th>Tick</th>
<th>Tick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical patient</td>
<td>Medical patient expected to have ongoing reduced mobility relative to normal state</td>
<td>Medical patient NOT to have ongoing reduced mobility relative to normal state</td>
<td></td>
</tr>
</tbody>
</table>

Assess for thrombosis and risk assessment | Risk assessment now complete |

5.9 If box ‘surgical patient’ or ‘medical patient expected to have ongoing reduced mobility relative to normal state’ is ticked then progress to the full VTE risk assessment (Appendix A). If the final box is ticked ‘medical patient NOT to have ongoing reduced mobility relative to normal state’ then the risk assessment is complete and no further completion is necessary - do not do the full risk assessment as not indicated. Ensure
the form is signed, dated, actions documented and leaflet given. The form is to remain the patient’s records at the end of the bed.

5.10 Once risk is identified the GP must complete the VTE risk on front of MAR chart within 24 hrs and as the clinical risk changes.

**Prophylactic Measures Against Venous Thromboembolism**

5.11 These measures include the use of anti-embolic stockings and Low Molecular Weight Heparins (LMWH) prescribed in licensed prophylactic doses (Appendices B - L).

5.12 Anti-embolism Stockings (referred to as “TED stockings/TEDs” throughout the remainder of this document, although an alternative product may be procured within the life of this policy). Where TEDs are indicated (refer to Appendices), patients should be measured for their application as soon as possible. TEDs should be worn from the day of admission until the day of discharge and until the risk has reduced. Assessment and measure must be undertaken by a Registered Nurse who has attended the Trust training on anti-embolic stockings at level 2 of the competency framework or by formal cascade training by Registered Nurses (Appendix T). Reapplication of anti-embolic stockings may be undertaken by Health Care Assistants and Students of Nursing who have attended Trust training or by formal cascade training by Registered Nurses on all anti-embolic stockings at level 1 of the competency framework (Appendix S). Please refer to Appendix R for full guidance on application and competencies required.

5.13 Low Molecular Weight Heparins (LMWH) – Enoxaparin is to be used for patients at risk providing there are no contraindications. The indications, cautions and contraindications for the use of Enoxaparin can be found in the current edition of the British National Formulary (BNF). Low Molecular Weight Heparins should be considered for all patients according to NICE Guidance – see Appendices B – L

- where prescribed Low Molecular Weight Heparins should be administered at 6pm until completion of the prescribed duration of treatment

5.14 Withholding Low Molecular Weight Heparin may be appropriate where the risks of bleeding outweigh the potential benefit from reduction of VTE risk. For example, patients undergoing forefoot surgery have a poor risk-benefit relationship for LMWH prophylaxis as is the case in most patients with acute stroke. Extended courses of LMWHs (after discharge in patients deemed to have continuing significant risk of VTE) are at the discretion of the Medical Practitioner / General Practitioner.

5.15 District and Community Nurses will be responsible for continuation of extended courses of Low Molecular Weight Heparins after discharge from community hospitals for the duration of the prescribed course of treatment
and appropriate discharge arrangements must be facilitated prior to discharge.

**Invasive Procedures**

5.16 Invasive procedures (e.g. liver biopsy, endoscopy with biopsy) with a risk of bleeding should where possible be delayed until at least 12 hours after the last dose of LMWH has been administered.

**Management of Deep Vein Thrombosis (DVT)/ Pulmonary Embolism (PE)**

5.17 On suspicion of a DVT/PE the health care professional must refer to the Deep Vein/ Pulmonary Embolism Policy for further measures to be taken.

**Governance**

5.18 Key performance indicators for all inpatient units within the Trust are as follows:

1. 100% patients should have a VTE risk assessment on admission

2. At least 90% of relevant patients should be reassessed within 24 hours of admission.

3. 100% patients should receive appropriate prophylaxis

**6. TRAINING AND COMPETENCY ASSESSMENT**

6.1 The Trust will work towards all staff being appropriately trained in line with the organisation’s Staff Mandatory Training Matrix (training needs analysis). All training documents including the Learning Development and Mandatory Training Policy and the Training Prospectus is accessible to staff within the Learning and Development Section of the Trust Intranet.

6.2 Training is accessible via e-learning for VTE training. Antiembolic stocking training is provided by either the training department or through cascade training by local staff who are trained and competent.

6.3 All medical and nursing staff will be made aware of the patient information document, risk assessment tool and this policy on local induction. GPs will also be made aware via the hospital liaison group meetings chaired by the Matrons.

6.4 On-line VTE education and training is available to all registered staff throughout Somerset Partnership NHS Foundation Trust.
6.5 A competency framework will be used to depict different levels of competence (Appendix R) required by personnel with the whole process of prescription, measurement, application and reapplication of anti-embolic stockings (Appendices S-V).

6.6 Assessment and measure must be undertaken by a Registered Nurse who has attended the Trust training on anti-embolic stockings at level 2 of the competency framework (Appendix T). They will be required to demonstrate a clear understanding on the assessment, measurement, application and maintenance of stockings before being recorded as competent. Each Nurse, midwife or Allied Health Professional is responsible for maintaining his / her competence.

6.7 Reapplication of anti-embolic stockings may be undertaken by Health Care Assistants or Students of Nursing who have attended Trust training on all anti-embolic stockings at level 1 of the competency framework (Appendix S). They will be assessed and recorded as competent by a Registered Nurse who meets the criteria in above (6.5).

6.8 Each Matron/Ward Manager or Department Head will maintain a register of Nurses and Midwives competent to undertake these roles. Training can be accessed via the Training and Development Department. Trust training attendance will be recorded on the Electronic Staff Record. This is updated by the administrators at the Training and Learning Department each month using the attendance sheets submitted by the trainers.

7. EQUALITY IMPACT ASSESSMENT

7.1 All relevant persons are required to comply with this document and must demonstrate sensitivity and competence in relation to the nine protected characteristics as defined by the Equality Act 2010. In addition, the Trust has identified Learning Disabilities as an additional tenth protected characteristic. If you, or any other groups, believe you are disadvantaged by anything contained in this document please contact the Equality and Diversity Lead who will then actively respond to the enquiry.

8. MONITORING COMPLIANCE AND EFFECTIVENESS

8.1 To monitor compliance, an annual audit will be conducted on the risk assessment process and prophylaxis for the Community Health Directorate (Appendix Q). An audit once every two years will be conducted for the Mental Health Directorate (Appendix P). Results will be discussed at the Clinical and Social Care Effectiveness Group, Medicines Management together with relevant operational groups. Any deficits in compliance will be addressed and action plans will be led by the ward sister / ward managers. Compliance will be monitored by the relevant Best Practice Group and progress reported to Clinical and Social Care Effectiveness Group six monthly.
A number of performance measures are also reported to the Trust Board on a monthly basis within the performance dashboard. These measures relate to inpatient admissions and include physical health, VTE and nutrition assessment.

9 COUNTER FRAUD

The Trust is committed to the NHS Protect Counter Fraud Policy – to reduce fraud in the NHS to a minimum, keep it at that level and put funds stolen by fraud back into patient care. Therefore, consideration has been given to the inclusion of guidance with regard to the potential for fraud and corruption to occur and what action should be taken in such circumstances during the development of this procedural document.

10. RELEVANT CARE QUALITY COMMISSION (CQC) REGISTRATION STANDARDS

10.1 Under the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 (Part 3), the fundamental standards which inform this procedural document, are set out in the following regulations:

- Regulation 8: General
- Regulation 9: Person-centred care
- Regulation 10: Dignity and respect
- Regulation 11: Need for consent
- Regulation 12: Safe care and treatment
- Regulation 13: Safeguarding service users from abuse and improper treatment
- Regulation 14: Meeting nutritional and hydration needs
- Regulation 15: Premises and equipment
- Regulation 16: Receiving and acting on complaints
- Regulation 17: Good governance
- Regulation 18: Staffing
- Regulation 19: Fit and proper persons employed
- Regulation 20: Duty of candour
- Regulation 20A: Requirement as to display of performance assessments.

10.2 Under the CQC (Registration) Regulations 2009 (Part 4) the requirements which inform this procedural document are set out in the following regulations:

- Regulation 16: Notification of death of service user
- Regulation 17: Notification of death or unauthorised absence of a service user who is detained or liable to be detained under the Mental Health Act 1983
- Regulation 18: Notification of other incidents

10.3 Detailed guidance on meeting the requirements can be found at http://www.cqc.org.uk/sites/default/files/20150311%20Guidance%20for%20providers%20on%20meeting%20the%20regulations%20FINAL%20FOR%20PUBLISHING.pdf
11. REFERENCES, ACKNOWLEDGEMENTS AND ASSOCIATED DOCUMENTS

11.1 References


NICE clinical guidance CG 46. 2008. Venous thromboembolism: reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in inpatients undergoing surgery. Available from:

NICE technology appraisal guidance 261 – Rivaroxaban for the treatment of deep vein thrombosis and prevention of recurrent deep vein thrombosis and pulmonary embolism.

NICE technology appraisal guidance 157 – Dabigatran etexilate for the prevention of venous thromboembolism after hip or knee replacement surgery in adults.

Patient Safety Alert NHS/PSA/W/2015/001 Stage One: Warning – Harm from using Low Molecular Weight Heparins when contraindicated


11.2 Cross reference to other procedural documents

Admission, Transfer and Discharge Policy

Clinical Audit Policy
DVT (Deep Vein Thrombosis) and PE (Pulmonary Embolism) Policy
Learning Development and Mandatory Training Policy
Mandatory Training Matrix (Training Needs Analysis)
Medicines Policy
Physical Assessment and Examination of Service Users Policy
Physiological Observations Policy
Records Keeping and Records Management Policy
Recovery Care Programme Approach Policy
Training Prospectus

All current policies and procedures are accessible in the policy section of the public website (on the home page, click on ‘Policies and Procedures’). Trust Guidance is accessible to staff on the Trust Intranet.

Prescribing Guidance can also be found on the Trust Intranet within the Drugs and Therapeutics Section.

12. APPENDICES

12.1 For the avoidance of any doubt the appendices in this policy are to constitute part of the body of this policy and shall be treated as such. This should include any relevant Clinical Audit Standards.

Appendix A: Risk Assessment for Venous Thromboembolism for CH Directorate
Appendix B: VTE Prophylaxis Treatment Algorithm for General Medical patients
Appendix C: VTE Prophylaxis Treatment Algorithm for Patients Admitted for Stroke
Appendix D: VTE Prophylaxis Treatment Algorithm for Patients with Cancer and with Central Venous Catheter
Appendix E: VTE Prophylaxis Treatment Algorithm for Patients in Palliative Care
Appendix F: VTE Prophylaxis Treatment Algorithm for Patients for Non-Orthopaedic Surgery
Appendix G: VTE Prophylaxis Treatment Algorithm for Patients for Non Orthopaedic Surgery - continued
Appendix H: VTE Prophylaxis Treatment Algorithm for Patients for Orthopaedic Surgery
**Mobility – all patients (tick one box)**

<table>
<thead>
<tr>
<th>Patient Type</th>
<th>Risk Factor</th>
<th>Mobility Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical patient</td>
<td>Medical patient expected to have ongoing reduced mobility relative to normal state</td>
<td>Medical patient NOT to have ongoing reduced mobility relative to normal state</td>
</tr>
</tbody>
</table>

**Assess for thrombosis and bleeding risk below**

**Risk assessment now complete**

### THROMBOSIS RISK

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active cancer or cancer treatment</td>
<td>Significantly reduced mobility for 3 days or more</td>
</tr>
<tr>
<td>Age &gt; 60</td>
<td>Hip or knee replacement</td>
</tr>
<tr>
<td>Dehydration</td>
<td>Hip fracture</td>
</tr>
<tr>
<td>Known thrombophilias</td>
<td>Total anaesthetic + surgical time &gt; 90 minutes</td>
</tr>
<tr>
<td>Obesity (BMI &gt;30 kg/m²)</td>
<td>Surgery involving pelvis or lower limb with total anaesthetic + surgical time &gt; 60 minutes</td>
</tr>
<tr>
<td>One or more significant medical comorbidities (such as heart disease; metabolic, endocrine or respiratory pathologies; acute infectious diseases; inflammatory conditions)</td>
<td>Acute surgical admission with inflammatory or intra-abdominal condition</td>
</tr>
<tr>
<td>Personal history or first-degree relative with a history of VTE</td>
<td>Critical care admission</td>
</tr>
<tr>
<td>Use of hormone replacement therapy</td>
<td>Surgery with significant reduction in mobility</td>
</tr>
<tr>
<td>Use of oestrogen-containing contraceptive therapy</td>
<td></td>
</tr>
<tr>
<td>Varicose veins with phlebitis</td>
<td></td>
</tr>
<tr>
<td>Pregnancy or &lt; 6 weeks post partum (see NICE guidance for specific risk factors)</td>
<td></td>
</tr>
</tbody>
</table>

### BLEEDING RISK: including but not limited to

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active bleeding</td>
<td>Neurosurgery, spinal surgery or eye surgery</td>
</tr>
<tr>
<td>Acquired bleeding disorders (such as acute liver failure)</td>
<td>Other procedure with high bleeding risk</td>
</tr>
<tr>
<td>Concurrent use of other medication known to increase the risk of bleeding eg anticoagulants, antiplatelets</td>
<td>Lumbar puncture/ epidural/ spinal anaesthesia expected within the next 12 hours</td>
</tr>
<tr>
<td>Acute stroke</td>
<td>Lumbar puncture/ epidural/ spinal anaesthesia within the previous 4 hours</td>
</tr>
<tr>
<td>Thrombocytopaenia (platelets &lt; 75x10⁹ /l)</td>
<td></td>
</tr>
<tr>
<td>Uncontrolled systolic hypertension (230/120 mmHg or higher)</td>
<td></td>
</tr>
</tbody>
</table>

**Print name:** ........................................................................................................

**Signature:** ........................................................................................................

**Designation:** ........................................................................................................

**Action taken:** ........................................................................................................

**Factsheets given (please specify):** ........................................................................

---

**PATIENT’S NAME:** ...................................................................................................

**DATE/TIME:** ............................................................................................................

**NHS No:** ..................................................................................................................
RISK ASSESSMENT FOR VENOUS THROMBOEMBOLISM (VTE)

All patients should be risk assessed on admission to hospital. Patients should be reassessed within 24 hours of admission and whenever the clinical situation changes.

STEP ONE

Nurse to assess all patients admitted to hospital for level of mobility (tick one box). All surgical patients, and all medical patients with significantly reduced mobility, should be considered for further risk assessment.

STEP TWO

Nurse to review the patient-related factors shown on the assessment sheet against thrombosis risk, ticking each box that applies (more than one box can be ticked).

Any tick for thrombosis risk should prompt thromboprophylaxis according to NICE guidance.

The risk factors identified are not exhaustive. Clinicians may consider additional risks in individual patients and offer thromboprophylaxis as appropriate.

If the form has been filled out correctly and no boxes are ticked, then the patient is at low risk of VTE and no intervention is indicated.

STEP THREE

Nurse to review the patient-related factors shown against bleeding risk and tick each box that applies (more than one box can be ticked).

Any tick should prompt clinical staff to consider if bleeding risk is sufficient to preclude pharmacological intervention.

The completed form must be reviewed by a Medical Practitioner/ Nurse Practitioner for consideration of prophylaxis and actions documented.

Guidance on thromboprophylaxis is available at:


http://www.nice.org.uk/guidance/CG92

Original document by the Department of Health Gateway reference no: 10278
Medical patients

General medical patients

Does risk of VTE outweigh risk of bleeding?

Yes

Is pharmacological VTE prophylaxis contraindicated?

Yes

Has patient been admitted for stroke?

Yes

Refer to Appendix C

No

Offer pharmacological VTE prophylaxis with:
- Enoxaparin

Continue until patient no longer at increased risk of VTE.

No

Consider offering mechanical VTE prophylaxis with any one of:
- Anti-embolic stockings (thigh or knee length)
- Foot impulse devices
- Intermittent pneumatic compression devices (thigh or knee length).

Reassess risks of bleeding and VTE within 24 hours of admission and whenever clinical situation changes.
Patients admitted for stroke

Do not offer anti-embolism stockings for VTE prophylaxis.

Does patient have major restriction of mobility, previous history or VTE, dehydration or comorbidity (such as malignant disease)?

Yes

Haemorrhagic stroke excluded?

Yes

Risk of bleeding (haemorrhagic transformation of stroke or bleeding into another site) low?

Yes

Consider offering prophylactic-dose of Enoxaparin.

When acute event over and patient’s condition stable

Stop Enoxaparin.

No

Reassess within 24 hours of admission and whenever clinical situation changes.

Consider offering foot impulse or intermittent pneumatic compression device until patient can have pharmacological VTE prophylaxis.

No

Balance risk of VTE and bleeding before offering VTE prophylaxis. Refer to risk assessment
Patients with cancer

Is patient having ongoing treatment and ambulant?

Yes

Do not routinely offer pharmacological or mechanical VTE prophylaxis.

No

VTE risk assessed?

Yes

Offer Enoxaparin. Continue until patient no longer at increased risk of VTE.

No

Patients with central venous catheters

Is patient ambulant?

Yes

VTE risk increased?

Yes

Do not routinely offer pharmacological or mechanical VTE prophylaxis.

No

VTE risk assessed?

Yes

Consider offering Enoxaparin

No

Reassess within 24 hours of admission and whenever clinical situation changes.
Patients in palliative care

If patient has potentially reversible acute pathology

Consider offering Enoxaparin

Review decisions about VTE prophylaxis daily, taking into account potential risks and benefits and views of the patient, family and/or carers and multidisciplinary team.

If patient in terminal care of end-of-life care pathway

Do not routinely offer pharmacological or mechanical VTE prophylaxis.

Balance risks of VTE and bleeding before offering VTE prophylaxis. Refer to risk assessment.
Non-orthopaedic surgery

Cardiac\(^1\) surgery

If VTE risk increased

If risk of major bleeding low

Add Enoxaparin. Continue until mobility no longer significantly reduced (generally 5-7 days).

Gastrointestinal surgery

If VTE risk increased

If risk of major bleeding low

Add Enoxaparin. Continue until mobility no longer significantly reduced (generally 5-7 days).

Bariatric surgery

If VTE risk increased

If risk of major bleeding low

Add Enoxaparin. Continue until mobility no longer significantly reduced (generally 5-7 days).

Gynaecological, thoracic and urological surgery

If VTE risk increased

If risk of major bleeding low

Add Enoxaparin. Continue until mobility no longer significantly reduced (generally 5-7 days).

1 Many cardiac surgical patients are already having antiplatelet or anticoagulant therapy.

For VTE prophylaxis in these patients:
- Do not offer additional pharmacological or mechanical VTE prophylaxis to patients who are taking vitamin K antagonists and who are within their therapeutic range, providing anticoagulation therapy is continued.
- Do not offer additional pharmacological or mechanical VTE prophylaxis to patients who are having full anticoagulation therapy (for example, fondaparinux sodium, Enoxaparin or UFH).

2 Choose any one of:
- Anti-embolism stockings (thigh or knee length)
- Foot impulse devices
- Intermittent pneumatic compression devices (thigh or knee length)
Neurological (cranial or spinal surgery)

If VTE risk increased

Offer mechanical VTE prophylaxis at admission. Continue until mobility no longer significantly reduced.

If risk of major bleeding low

Is patient having neurological surgery and has ruptured cranial or spinal vascular malformations (for example, brain aneurysms) or acute traumatic or non-traumatic haemorrhage?

Yes

Do not offer Enoxaparin until lesion is secured or condition stabilised.

No

Offer mechanical VTE prophylaxis at admission. If peripheral arterial disease present, seek expert opinion before fitting anti-embolism stockings. Continue until mobility no longer significantly reduced.

Vascular surgery

If VTE risk increased

Offer mechanical VTE prophylaxis at admission. If peripheral arterial disease present, seek expert opinion before fitting anti-embolism stockings. Continue until mobility no longer significantly reduced.

Other surgery

If VTE risk increased

Offer mechanical VTE prophylaxis at admission. If peripheral arterial disease present, seek expert opinion before fitting anti-embolism stockings. Continue until mobility no longer significantly reduced.

Day surgery

If VTE risk increased

Offer mechanical VTE prophylaxis at admission. Continue until mobility no longer significantly reduced.

If risk of major bleeding low

Add Enoxaparin. Continue until mobility no longer significantly reduced (generally 5-7 days).

Add Enoxaparin. Continue until mobility no longer significantly reduced, including after discharge (generally 5-7).

---

3 Choose any one of:
- Anti-embolism stockings (thigh or knee length)
- Foot impulse devices
- Intermitent pneumatic compression devices (thigh or knee length).

4 Many vascular surgical patients are already having antiplatelet or anticoagulant therapy.
- Do not offer additional pharmacological or mechanical VTE prophylaxis to patients who are taking vitamin K antagonists and who are within their therapeutic range, providing anticoagulation therapy is continued.
- Do not offer additional pharmacological or mechanical VTE prophylaxis to patients who are having full anticoagulation therapy (for example, fondaparinux sodium, Enoxaparin or UFH).
Orthopaedic surgery

Elective hip replacement

**At admission**
Offer mechanical VTE prophylaxis with any one of:
- anti-embolism stockings (thigh or knee length), used with caution.
- foot impulse devices
- intermittent pneumatic compression devices (thigh or knee length).
Continue until patient’s mobility no longer significantly reduced.

**1-2 hours after surgery**
Provided there are no contraindications, offer pharmacological VTE prophylaxis.
Continue pharmacological VTE prophylaxis for 28-35 days\(^5\).

Choose one of;
- Enoxaparin started 6-12 hours after surgery
- Dabigatran started 1-4 hours after surgery
- Rivaroxaban started 6-10 hours after surgery

Elective knee replacement

**At admission**
Offer mechanical VTE prophylaxis with any one of:
- anti-embolism stockings (thigh or knee length), used with caution.
- foot impulse devices
- intermittent pneumatic compression devices (thigh or knee length).
Continue until patient’s mobility no longer significantly reduced.

**1-2 hours after surgery**
Provided there are no contraindications, offer pharmacological VTE prophylaxis.
Continue pharmacological VTE prophylaxis for 10-14 days\(^5\).

\(^5\) According to the summary of product characteristics for the individual agent being used.
Balance risks of VTE and bleeding before offering VTE prophylaxis. Refer to risk assessment.

### Hip fracture

**At admission**
- Offer mechanical VTE prophylaxis with any one:
  - anti-embolism stockings (thigh or knee length), used with caution.
  - foot impulse devices
  - intermittent pneumatic compression devices (thigh or knee length).
- Continue until patient’s mobility no longer significantly reduced.
- Provided there are no contraindications, offer Enoxaparin if using.

**24 hours before surgery**
Stop fondaparinux if it has been used (only recommended after surgery).

**12 hours before surgery**
Stop Enoxaparin if using.

**6 hours after surgical closure**
Offer fondaparinux if using, provided haemostasis has been established and there is no risk of bleeding. Continue for 28-35 days⁶ (secondary care).

**6-12 hours after surgery**
Restart Enoxaparin. Continue for 28-35 days⁶.

### Other orthopaedic surgery

**At admission**
Assess patient’s risk of VTE.

**If VTE risk increased**
- Consider offering mechanical VTE prophylaxis with any one of:
  - anti-embolism stockings (thigh or knee length), used with caution.
  - foot impulse devices
  - intermittent pneumatic compression devices (thigh or knee length).
- Consider offering LMWH 6-12 hours after surgery.

### Upper limb surgery

**Do not routinely offer VTE prophylaxis.**

---

⁶According to the summary of product characteristics for the individual agent being used.
Balance risks of VTE and bleeding before offering VTE prophylaxis. Refer to risk assessment.

**Major trauma or spinal injury**

- **Patient admitted with major trauma**
  - Offer mechanical VTE prophylaxis at admission or as soon as clinically possible, with any one of:
    - anti-embolism stockings (thigh or knee length), used with caution.
    - foot impulse devices
    - intermittent pneumatic compression devices (thigh or knee length).
  - Continue until patient’s mobility no longer significantly reduced.

- **Patient admitted with spinal injury**

  Assess patient’s risk of VTE and bleeding.

  If risk of VTE outweighs risk of bleeding
  - If risk of bleeding low
    - Offer Enoxaparin. Continue until mobility no longer significantly reduced.
  - Regularly reassess risks of VTE and bleeding.
Balance risks of VTE and bleeding before offering VTE prophylaxis. Refer to risk assessment.

**Lower limb plaster casts**

[Diagram]

Patient having lower limb plaster cast

Assess risk of VTE.

If VTE risk increased

Consider offering Enoxaparin after evaluating risks and benefits and based on clinical discussion with patient.

Continue until after plaster cast removed.
Pregnancy and up to 6 weeks post partum

**Risk factors**

- Expected to have significantly reduced mobility for ≥ 3 days
- Active cancer or cancer treatment
- Age >35 years
- Critical care admission
- Dehydration
- Excess blood loss or blood transfusion
- Known thrombophilies
- Obesity (pre-pregnancy or early pregnancy BMI > 30 kg/m²)
- Significant medical comorbidity (such as heart disease, metabolic, endocrine or respiratory pathologies, acute infectious diseases or inflammatory conditions)
- Personal history or first-degree relative with history of VTE
- Pregnancy-related risk factor, including ovarian hyperstimulation, hyperemesis gravidarum, multiple pregnancy, pre-eclampsia
- Varicose veins with phlebitis

Before offering VTE prophylaxis:
- assess the risks and benefits
- discuss VTE prophylaxis with the woman and with healthcare professionals who have knowledge of the protocol method of prophylaxis during pregnancy and post partum.
- Plan timing of VTE prophylaxis to minimise risk of bleeding.

Consider offering mechanical VTE prophylaxis⁷ + Enoxaparin.

Consider offering Enoxaparin if one or more risk factors present.

Choose any one of:
- Anti-embolism stockings (thigh or knee length)
- Foot impulse devices
- Intermittent pneumatic compression devices (thigh or knee length)

---

⁷Choose any one of:
Introducing

This information is about the care and treatment of people who are at risk of developing a blood clot while in hospital. It aims to help you understand the care and treatment options that should be available in the NHS.

Blood clots

When you are inactive for a period of time, blood tends to collect in the lower parts of your body, often in the lower leg and your blood moves around your body more slowly. This can trigger the formation of a blood clot (also known as a thrombus). Blood clots are therefore more common in people who are immobile or who are unable to move around as much as usual. For example, this may occur when travelling for long periods of time or after an operation.

A blood clot may develop in the body at any time during or after a period of inactivity. When a clot forms in one of the deep veins in your leg, thigh, pelvis or arm it is known as deep vein thrombosis (DVT). The clot itself is not life threatening, but if it comes loose it can be carried in your blood stream to another part of your body where it can cause problems. This is called a venous thromboembolism (VTE). If the clot travels to the lungs it is called a pulmonary embolus (PE), which can be fatal.

Even if a blood clot does not come loose, it can still cause long-term damage to your veins.

Risk factors

Everyone who stays in hospital is at risk of developing a blood clot but some people are more at risk than others. Your healthcare professional should assess which risk factors apply to you. You are at risk of developing blood clots if:

- You or your family have a history of blood clots
- You have cancer
- You have a severe infection
- You have severe bowel inflammation, Colitis or Crohn’s disease
● You have longstanding problems with your heart or lungs
● You are on the combined contraceptive pill or are taking Hormone Replacement Therapy
● You have inflamed varicose veins (phlebitis)
● You are over weight (with a body mass index of 30 or more)
● You are unable to move around
● You are over 60 years old
● You take a journey of more than three hours in the four weeks before or after your operation, such as by air or train
● You have a condition that makes your blood more likely to clot

Reducing the risk of blood clots

There are two main ways of reducing your chances of developing a blood clot:

● Using devices that help stop the blood collecting in your leg veins
● Using medicines that reduce the risk of blood clotting

During your stay in hospital, your healthcare professional should also make sure that you do not become dehydrated. This will help reduce your risk of developing a blood clot.

Stopping the blood collecting in your leg veins

Anti-embolic stockings are tight stockings specially designed to reduce the risk of blood clots. The stockings squeeze your feet, lower legs and thighs, helping your blood to move around your body more quickly.

Your healthcare professional may offer stockings for you to wear until you are back to your usual level of activity.

Medicines that reduce the risk of blood clots

Depending on your risk factors, your healthcare professional may offer you Enoxaparin, an anticoagulant drug that helps prevent your blood from clotting.

After an operation

You should move about as soon as possible after your operation. This reduces the risk of getting a blood clot. If you cannot move around, leg exercises should be arranged for you.

You are still at risk of developing a clot in the days and weeks after your operation. This risk continues until you have recovered from your operation and you are back to your usual level of activity.

It is important that you follow the instructions given to you by your healthcare professional to reduce the risk of getting a blood clot. This might include wearing your stockings until you are back to your usual level of activity, or continuing to take your anticoagulant medicine for several weeks after your operation.

Venous Thromboembolism Policy
V4 - 32 - April 2015
You should also avoid long periods of travel for four weeks after your operation to reduce your chances of developing a blood clot.

**How to tell if you have a blood clot**

There are certain signs to look out for after your operation that could mean you have a blood clot.

You should contact your healthcare professional immediately in the days or weeks after your operation if you experience any of the following:

- Pain or swelling in your leg
- The skin on your leg is hot or discoloured (red, purple or blue), other than the bruising around the operation site
- Feet are numb or tingling
- The veins near the surface of your legs appear larger than normal or you notice them more
- Shortness of breath
- Pain in your chest, back or ribs which gets worse when you breathe in deeply
- Coughing up blood

**Further information**

If you have any questions, or would like more information, please contact the health professional managing your care.

If you would like to contact our Patient Advice and Liaison Services (PALS) Please telephone 01278 432 022 or email pals@sompar.nhs.uk
Blood Clots

When you are inactive for a period of time, blood tends to collect in the lower parts of your body, often in the lower leg and your blood moves around your body more slowly. This can trigger the formation of a blood clot (also known as a thrombus). Blood clots are therefore more common in people who are immobile or who are unable to move around as much as usual. For example, this may occur when travelling for long periods of time or after an operation.

A blood clot may develop in the body at any time during or after a period of inactivity. When a clot forms in one of the deep veins in your leg, thigh, pelvis or arm it is known as deep vein thrombosis (DVT). The clot itself is not life threatening, but if it becomes loose it can be carried in your blood stream to another part of your body where it can cause problems. This is called a venous thromboembolism (VTE). If the clot travels to the lungs it is called pulmonary embolus (PE), which can be fatal. Even if a blood clot does not come loose, it can still cause long-term damage to your veins.

Risk Factors

Everyone who stays in hospital is at risk of developing a blood clot, but some people are more at risk than others. Your healthcare professional should assess which risk factors apply to you. You are at risk of developing blood clots if:

- You or your family have a history of blood clots
- You have cancer
- You have a severe infection
- You have severe bowel inflammation, Colitis or Crohn’s Disease
- You have longstanding problems with your heart or lungs
- You are on the combined contraceptive pill or are taking Hormone Replacement Therapy
- You have inflamed varicose veins (phlebitis)
- You are overweight (with a body mass index of 30 or more)
- You are unable to move around
- You are over 60 years old
- You take a journey of more than 3 hours in the 4 weeks before or after an operation, such as by air or train
- You have a condition that makes your blood more likely to clot

Reducing the risk of blood clots

There are 2 main ways of reducing your chances of developing a blood clot:

- Using devices that help stop the blood collecting in your leg veins, ie anti-embolic stockings
- Using medicines that reduce the risk of blood clotting
- Keeping hydrated
How to tell if you have a blood clot

There are certain signs to look out for that mean you could have a blood clot. You should speak to ward staff immediately if you experience any of the following:

- Pain or swelling in your leg
- The skin on your leg is hot or discoloured (red, purple or blue)
- Feet are numb or tingling
- The veins near the surface of your legs appear larger than normal or you notice them more
- Shortness of breath
- Pain in your chest, back or ribs which gets worse when you breathe in deeply
- Coughing up blood
Venous Thromboembolism Policy
V4 - 36 - April 2015

Self administration of Enoxaparin
Information for patients

What is Enoxaparin?
Enoxaparin is a type of medicine that helps to reduce the risk of your blood from clotting (an anticoagulant). It is given by a small injection under the skin. Enoxaparin is made from pork derived heparin sodium and if you have any concerns about this speak to your health professional.

Why do I need Enoxaparin?
You may have had an operation that can make you less active than usual or have reduced mobility. Your health professional may therefore feel it is beneficial for you to continue this medication when you go home. When you are inactive for a time blood can collect in the lower parts of your body, often in the lower leg. As a result a blood clot can develop in the large vein of the legs. This is called a Deep Vein Thrombosis (DVT) and can cause long term damage to your veins. Although this blood clot may not cause an immediate problem there is a risk that it can break loose and travel through the blood stream where it can cause problems. If the clot travels to the lungs it is called a Pulmonary Embolus (PE) which can be life threatening. If you are at risk of or have had a DVT or PE you may require this medicine as part of the treatment for your condition in hospital and sometimes after you go home.

Who is at risk of developing a blood clot?
You may be at a higher risk of blood clots if;
- You have had surgery such as knee replacement, hip replacement or abdominal surgery
- You have had surgery that may reduce your mobility
- You are over 60 years, the risk increases the older you are
- You are taking the contraceptive pill or hormone replacement therapy
- You have long standing heart or lung problems
- You are obese
- You or a family member has had a blood clot before
- You have cancer or are on cancer treatment
- You have had a stroke
- You have varicose veins
- You are unable to move around
How is it given?

Enoxaparin injections are in ready to use syringes. Enoxaparin is given as an injection just under the skin (subcutaneous) at approximately the same time each day. Your health professional will tell you how long you will need to continue with this treatment. You may be able to give your own injections. Your nurse will teach you how to do this.

Step by step instructions for self injecting Enoxaparin

- Wash your hands with soap and warm water and dry them thoroughly
- Choose an area on either left or right side of your stomach
- Keep away from scarred areas, bruises and where skin will be rubbed by clothes
- Carefully remove the protective cap from the end of the syringe
- Hold the syringe like a pencil in the hand you normally write with
- Pinch a fold of skin between the thumb and index finger of your other hand
- Insert the whole length of the needle into the fold of your skin
- Keep the needle straight and at a right angle to your body
- Press the plunger down gently but firmly until it stops and the syringe is empty
- Gently pull the needle out taking care to keep it straight
- Put the used syringe into the sharps bin

You should

- Alternate the side on which you inject
- Make sure you put your used syringes into the safety bin each time you inject
- Keep the sharps bin out of reach of children
- Take your Enoxaparin injection at approximately the same time each day
- Look out for unusual signs of bleeding
- Take care when shaving or using sharp objects as you may bleed more easily than usual
- Tell your nurse or doctor about other medicines you are taking as these can affect the way Enoxaparin works

You shouldn’t

- Touch the needle before you inject, this will help keep it sterile and reduce the risk of infection
- Twist off the needle cap as this could bend the needle
- Put the cap back onto the needle after injecting
- Rub the skin after you have injected as this can cause bruising
- Let anyone else use your Enoxaparin injections
Storage
Keep in a safe place out of the reach of children. Keep at room temperature and away from light and moisture. Do not put in the fridge.

Side effects
The most common side effect is that you may be prone to bruising or bleeding. You may notice tests to monitor. If you have any of the following please contact your health professional at once:
- Bleeding from a surgical wound
- Any other bleeding - for example, from the skin where you have injected, nosebleeds, blood in your urine or if you cough up blood or vomit blood
- Unusual bruising not caused by a blow or other obvious reason

You must also tell your doctor if you
- Have a serious fall or head injury
- Become pregnant or are planning to become pregnant
- Notice any other unusual signs or symptoms
- Are allergic to Enoxaparin sodium, heparin or pork products if Enoxaparin is offered to you

What if I miss an injection?
Do not worry, just take your injection as soon as you remember then go on as before. Do not take double the dose on the same day.

Sharps bin disposal
You will be supplied with a sharps bin which, after the course of treatment or when the sharps bin is full, must be returned to the hospital at your next visit so that we can dispose of them for you. Don’t forget to secure the lid.

Contact
If you have any questions or are unsure about anything to do with your treatment, ask your nurse, doctor, pharmacist or surgeon for more information. The following website can provide additional information http://www.nice.org.uk/CG046.

If you would like to contact our Patient Advice and Liaison Service (PALS) please telephone 01278 432022 or email pals@sompar.nhs.uk
Introduction
We hope this fact sheet will help you to understand a little more about the use of anti-embolic stockings.

If you have any further questions, please don’t hesitate to ask the nursing or medical staff. They will be happy to help you.

What are anti-embolic stockings?
Anti-embolic stockings are tight stockings. They can help to improve the flow of blood through veins in your legs by providing external support to your legs.

Why do I need anti-embolic stockings?
If you stay in bed for any length of time or are otherwise inactive, the blood in your veins slows down. This is because the leg muscles are not pumping the blood back to your heart. When the blood flow slows down there is an increased risk of a blood clot forming in the vein. This is called a deep vein thrombosis (DVT).

Anti-embolic stockings provide support that will help to prevent this.

Who should not wear anti-embolic stockings?
Anti-embolic stockings should not be worn if you suffer from any of the following conditions:

- Gangrene / dermatitis / recent skin graft
- Peripheral vascular disease / arteriosclerosis
- Pulmonary oedema (an excess of fluid in the lungs due to heart failure)
- Gross limb cellulitis
- Extreme leg oedema
- Extreme deformity of the leg
- Peripheral neuropathy

You should also not wear anti-embolic stockings if the circumference of your thigh is greater than those listed in the fitting instructions.
What will happen before my stocking is applied?

The nursing staff will assess you to see if you are suitable for treatment using anti-embolic stockings.

They will then prescribe the correct stockings for you. The nurse will measure your legs and fit the correct size stocking for you.

How do I put on the anti-embolic stockings?

The nurse will show you how to put on the anti-embolic stockings as follows:

- Insert your hand into the foot of the stocking as far as the heel pocket
- Grasp the heel pocket and turn the stocking inside out
- Put the stocking over your foot and heel and then roll the stocking up your leg
- Smooth out any excess material making sure the heel and toe are in the correct position

While you are in hospital the nursing staff will help you with your stockings.

Your stockings must be worn at all times, but they can be removed for up to 30 minutes each day so you can have a bath or shower, and so the nursing staff can check your legs.

Regular checks when wearing your anti-embolic stockings

- Ensure that the tops of the stockings are not rolled over or turned down as this will form a tight band around your leg
- Avoid using creams, lotions or oils as they can damage the elastic thread
- The skin of your leg will be checked each day by a nurse who will keep a record of your condition
- If you suffer from any kind of skin irritation it could be that you are allergic to the lycra or elastic fibres
- It is very important to comply with the given advice

If you have any problems, please contact your GP or the nurse managing your care.
Care of your anti-embolic stockings

- Put on clean stockings regularly
- Stockings can be machine washed at 70°C
- Do not dry stockings close to direct heat, such as radiators, as this will cause the stockings to shrink. They can be dried at temperatures that do not exceed 80°C for 15-20 minutes

Risks associated with wearing anti-embolic stockings

The following risks are associated with wearing anti-embolic stockings:

- You may develop an allergic reaction to the stocking
- You may notice some pressure or redness over more bony areas
- You may notice changes to your circulation

Further information

If you have any questions, or would like more information, please contact the nurse or district nurse managing your care.

If you would like to contact our Patient Advice and Liaison Service (PALS) please telephone 01278 432022 or email pals@sompar.nhs.uk
Venous Thromboembolism Prevention Audit Standards for Mental Health Directorate only
(Derived from NICE CG92)

Updated and agreed by Practice Standards Group 17/01/2011

<table>
<thead>
<tr>
<th>Service area(s) to which standards apply:</th>
<th>All</th>
<th>Community Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td>√ All Inpatient Wards</td>
<td></td>
<td>Community Older</td>
</tr>
<tr>
<td>Inpatient Adult</td>
<td></td>
<td>CAMHS</td>
</tr>
<tr>
<td>Inpatient Older</td>
<td></td>
<td>Eating Disorders</td>
</tr>
<tr>
<td>Rehab &amp; Recovery</td>
<td></td>
<td>Learning Disabilities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date Practice Standards due for review</th>
<th>As per policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit regularity</td>
<td>12 months CHD</td>
</tr>
<tr>
<td></td>
<td>24 months MHD</td>
</tr>
<tr>
<td>Previous audits</td>
<td>CHD May 2011</td>
</tr>
<tr>
<td></td>
<td>April 2014 (MH and CH)</td>
</tr>
</tbody>
</table>
### Venous Thromboembolism Prevention AUDIT STANDARDS

<table>
<thead>
<tr>
<th>Definitions</th>
<th>Standard</th>
<th>Compliance</th>
<th>Exceptions</th>
<th>Definitions</th>
</tr>
</thead>
</table>
| 546         | All patients to be assessed within 24 hours of admission to an inpatient ward to identify those at increased risk of VTE | 100% | None | Patients to be considered at risk if they:  
- Previous history of VTE/DVT  
- Have had, or are expected to have, significantly reduced mobility for 3 days or more.  
- Are expected to have ongoing reduced mobility relative to their normal state.  
Record on RiO within Physical Health/Examination assessment |
| 547         | Patients should be assessed for VTE risk factors that will increase their risk if they have reduced mobility of 3 days or more, and whenever their clinical situation changes | 100% | None | VTE Risk factors are:  
- Active cancer or cancer treatment  
- Aged over 60  
- Dehydration  
- Known thrombophilias  
- Obesity (BMI > 30 kg/m2)  
- One or more significant medical co morbidities (e.g. Heart disease, metabolic endocrine or respiratory pathologies; acute infectious diseases; inflammatory conditions)  
- Personal history or first degree relative with history of VTE  
- Pregnancy or less than 6 weeks post partum  
- Use of HRT  
- Use of oestrogen-containing contraceptive therapy  
- Varicose veins with phlebitis  
Record on Risk Assessment for VTE paper form which must then be uploaded into Documents, Other Assessment Report. |
### Venous Thromboembolism Prevention AUDIT STANDARDS

<table>
<thead>
<tr>
<th>Definitions</th>
<th>Standard</th>
<th>Compliance</th>
<th>Exceptions</th>
<th>Definitions</th>
</tr>
</thead>
</table>
| 548 | All patients identified at risk of VTE require assessment for risk of bleeding, and entered on Rio system | 100% | None | Risk factors for bleeding are:  
- Active bleeding  
- Acquired bleeding disorders (such as acute liver disease)  
- Concurrent use of other medicines known to increase the risk of bleeding eg anticoagulants, antiplatelets  
- Lumbar puncture/epidural/spinal anaesthesia expected within the next 12 hours.  
- Lumbar puncture/epidural/spinal anesthesia within the previous 4 hours  
- Acute stroke  
- Thrombocytopenia (platelets less than 75x10⁹/l)  
- Uncontrolled systolic hypertension (230/120 mmHg or higher)  
- Untreated inherited bleeding disorders (such as haemophilia and von Willebrand’s disease)  
Record on Risk Assessment for VTE paper form which must then be uploaded into Documents, Other Assessment Report. Record as an Alert, (Physical Condition), and in the RiO Care Plan. |
| 549 | Offer all patients/carers verbal/written information on prevention of VTE at admission | 100% | None | All patients/carers/families to be given information on  
- Risks and possible consequences of VTE  
The importance of reducing the risk by movement and fluids |
| 550 | Provide all patients (and carers) who have been treated or have received prophylaxis for VTE, with information at the point of discharge from an inpatient ward | 100% | None | All patients/carers/families to be given information on  
- Risks and possible consequences of VTE treatment  
The importance of reducing the risk by movement and fluids  
The importance of VTE prophylaxis treatment if prescribed  
The correct use of VTE prophylaxis aids used such as anti-embolism stockings.  
Record in discharge summary/care plan |
<table>
<thead>
<tr>
<th>Definitions</th>
<th>Standard</th>
<th>Compliance</th>
<th>Exceptions</th>
<th>Definitions</th>
</tr>
</thead>
</table>
| 551         | The risk of VTE should be reduced wherever possible | 100% | None | Do not allow patients to become dehydrated unless clinically indicated.  
Patients to be encouraged to mobilise as soon as possible.  
Aspirin or other antiplatelet agent is not regarded as adequate VTE prophylaxis |
| 552         | Use of VTE prophylaxis:  
The multidisciplinary team should consider what appropriate prophylaxis treatment would be required, based on DGH guidance, the individuals' medical condition, capacity and compliance | 90% | Contra indications to compression stockings and sequential compression devices.  
Pharmacological prophylaxis is contra-indicated in patients deemed at high risk of bleeding | Preferred option for mechanical prophylaxis would be anti-embolism stockings. Other options such as Foot impulse devices and Intermittent pneumatic compression devices would only be considered with advice from DGH  
Pharmacological VTE prophylaxis would be in line with DGH guidance.  
Usual dose of enoxaparin for VTE prophylaxis is 40mg subcutaneously each day. Dose should be reduced to 20mg if patient weighs less than 50kg or is renally impaired (serum creatinine is greater than 150micromols/l or creatinine clearance less than 30ml/min).  
Enoxaparin is licensed for VTE prophylaxis use for 10 days in surgical and 14 days in medical patients.  
Dabigatran and unfractionated heparin would only be used on recommendation from DGH. |
VENOUS THROMBOEMBOLISM (VTE) AUDIT TOOL

- Please answer all the questions by ticking the corresponding box, if a question is not applicable to the patient; please ensure you mark the tool accordingly.
- Please complete one Audit Tool for every inpatient
- One day’s worth of Day Surgery Case Notes are to be audited by Theatre Sister/ Charge Nurse at Minehead and West Mendip Community Hospitals.

To complete this audit tool you will need the following information:
- Patient’s Care Plan
- Patient’s VTE Risk Assessment Form
- Patient’s Multidisciplinary Health Record
- Patient’s Evaluation Record
- Patient’s Medicines Administration Record

---

**Community Hospital**
- Bridgewater
- Burnham
- Chard
- Crewkerne
- Dene Barton
- Frome
- Minehead
- Shepton Mallet
- South Petherton
- Wellington
- West Mendip
- Williton
- Wincanton

**Ward**
- Abbey
- Cathedral
- Oak
- Cedar
- Fosse
- Kearton
- Athlone
- Hadspen
- Poole
- Coates
- Luke
- Lydeard
- Other /Theatre
- Poole

(please specify)________

No of inpatients at time of audit: __________

---

<table>
<thead>
<tr>
<th>ALL PATIENTS</th>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was this patient assessed for risk of VTE on admission?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Q2 |     |    |    |
| Was this patient re-assessed within 24 hours from admission? |

| Q3 |     |    |    |
| Does the patient fall into any of the following categories within the Risk Assessment for VTE? |
| (a) Surgical Patient? |
| (b) Medical patient expected to have ongoing reduced mobility relative to normal state? |
| (c) Medical patient not expected to have significantly reduced mobility relative to normal state? |
### ALL PATIENTS

<table>
<thead>
<tr>
<th>Question</th>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4a If (a) or (b) at Q3 have been ticked was the full assessment carried out?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4b If (c) at Q3 has been ticked was the full assessment carried out?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4c Was the assessment dated?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4d Was the assessment timed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4e Was the assessment signed for?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Q5
Within the **Thrombosis Risk** Section which of following has been ticked?

- (a) No thrombosis Risk Identified
- (b) Active cancer or cancer treatment
- (c) Age >60
- (d) Dehydration
- (e) Known thrombophilias
- (f) Obesity (BMI >30 kg/m²)
- (g) One or more significant medical comorbidities (such as heart disease; metabolic, endocrine or respiratory pathologies; acute infectious diseases; inflammatory conditions)
- (h) Personal history or first degree relative with history of VTE
- (i) Use of hormone replacement therapy
- (j) Use of oestrogen-containing contraceptive therapy
- (k) Varicose veins with phlebitis
- (l) Pregnancy or <6 weeks post partum (see NICE guidance for specific risk factors)
- (m) Significantly reduced mobility for 3 days or more
- (n) Hip of knee replacement
- (o) Hip Fracture
- (p) Total anaesthetic + surgical time > 90 minutes
- (q) Surgery involving pelvis or lower limb with total anaesthetic + surgical time > 60 minutes
- (r) Acute surgical admission with inflammatory or intra-abdominal condition
- (s) Critical care admission
- (t) Surgery with significant reduction in mobility

#### Within the **Bleeding Risk** Section which of following has been ticked?

- (a) No bleeding risk identified
- (b) Active bleeding
- (c) Acquired bleeding disorder (such as acute liver failure)
- (d) Concurrent use of other medicines known to increase the risk of bleeding eg anticoagulants, antiplatelets.
- (e) Acute Stroke
- (f) Thrombocytopaenia (platelets <75x10⁹/l)
- (g) Uncontrolled systolic hypertension (230/120 mmHg or higher)
### Venous Thromboembolism Policy

**Q7** If the patient has been deemed at risk, have they been prescribed pharmacological VTE prophylaxis?

- **Q7a** If not, what reason for not prescribing has been documented?

<table>
<thead>
<tr>
<th>ALL PATIENTS</th>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>(h) Neurosurgery, spinal surgery or eye surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Other procedure with high bleeding risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(j) Lumbar puncture/ epidural/ spinal anaesthesia expected within the next 12 hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(k) Lumbar puncture/ epidural/ spinal anaesthesia within the previous 4 hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Q8** Was this patient assessed for risk of bleeding before being offered pharmacological VTE prophylaxis?

**Q9a** Was it documented that the patient was offered the Reducing the risk of blood clot leaflet?

**Q9b** Before starting VTE Prophylaxis was it documented that the patient was offered the Anti-embolic stockings leaflet?

**Q10** Is there evidence that the patient was encouraged to mobilise as soon as possible?

**Q11** Was the patient prescribed?

- **(a)** Low molecular weight heparin (Enoxaparin)?
  - **(i)** If Yes, has it been initialled and timed on the MAR chart as administered?

- **(b)** Unfractionated heparin?
  - **(i)** If Yes, has it been initialled and timed on the MAR chart as administered?

**Q12** Please indicate how long after the risk assessment was completed was pharmacological VTE prophylaxis started:

- **(a)** <24 hours
- **(b)** 24 – 47 hours 59 minutes
- **(c)** ≥ 48 hours
- **(d)** Not indicated within notes

**Q13** Was pharmacological VTE prophylaxis stopped when the patient was no longer at increased risk of VTE?

- **(a)** If yes, is there evidence in the file that a further assessment had been carried out and no risks were identified?
### SURGICAL PATIENTS

**Q14** If this patient has had bariatric surgery, was he/she offered mechanical VTE prophylaxis?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
</table>

**Q15** During this episode of care has it been recorded that this patient has had:

<table>
<thead>
<tr>
<th>Recorded on Risk Assessment</th>
<th>Record on Multidisciplinary Health Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

(a) Elective hip replacement surgery?
(b) Elective knee replacement surgery?
(c) Elective hip fracture surgery?
(d) Elective lower limb surgery?
(e) Other (please specify)
(f) None of the above?

**Q16** If yes to a–e above, was the patient prescribed combined VTE prophylaxis with mechanical and pharmacological methods? (e.g. anti-embolic stockings and Enoxaparin)

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>NA</th>
</tr>
</thead>
</table>

**Q17** If yes to a–e above, was the patient offered any of the following:

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>Initialled &amp; Timed on MAR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) Anti-embolism stockings (thigh or knee length)
(b) Foot impulse devices
(c) Intermittent pneumatic compression devices
(d) Dabigatran etexilate (not applicable to hip fracture)
(e) Fondaparinux sodium
(f) LMWH (Enoxaparin)
(g) Rivaroxaban
(h) UFH (for patients with renal failure)
(i) Other: please state:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>

**Comments**
ANTI-EMBOLIC STOCKINGS

1. ASSESSMENT AND PRESCRIPTION

Assessment

1.1 It is essential that an assessment is made of the patient's condition and their suitability for compression, prior to the application of stockings.

- the skin integrity must be checked to both lower limbs with particular reference to pressure damage
- the admitting Clinician must assess and record pedal pulses in the medical records. If the pulses are easily palpable, then anti-embolic stockings can be prescribed. If the Clinician is in any doubt about the palpation of the pedal pulses then the ankle brachial pressure index should be measured. If the ankle brachial pressure index is greater than 0.8 it will be safe to use anti-embolic stockings.

Contraindications from the use of anti-embolic stockings:

- gangrenous conditions
- peripheral vascular disease
- pulmonary oedema
- massive leg oedema
- thigh circumference greater than those listed in the fitting instructions

1.2 Great caution should be exercised when compressing the legs of patients with diabetes. These patients should have a twice daily assessment of lower limb skin integrity in the early stages of stocking application.

1.3 NB: Anti-embolic stockings are designed for NON-AMBULATORY patients. They are NOT indicated for the correction of limb oedema and should NOT be confused with Class 1, 2 or 3 graduated compression hosiery.

2. PRESCRIPTION OF ANTI-EMBOLIC STOCKINGS

2.1 The prescription of anti-embolic stockings will be documented on the regular prescription section of the Medicines Administration record, clearly stating above or below knee. Above knee is recommended unless contraindicated. Always discuss with the medical staff if this is the case.
3. DOCUMENTATION

3.1 Assessment and measurement and application data must be recorded in the Evaluation Record.

3.2 Maintenance evaluation and giving appropriate patient information must be recorded on a daily basis in the Evaluation Record.

3.3 Patient information leaflet (Appendix O) is to be given to the patient on first application of stockings.

4. MEASUREMENT AND APPLICATION

Measurement

4.1 Accurate measurements must be made to determine the size of stockings required to meet the needs of the patient.

**Action**

Sit the patient on a chair, edge of the bed or if the patient is immobile ensure their leg is not resting on the bed by bending their knee.

Measure the circumference of the calf at the greatest point on both legs. If thigh length stockings are prescribed, measure the upper thigh circumference as well as the calf.

A record of the measurements must be entered in the nursing records with the size of the stocking applied.

Reassessment of calf and upper thigh measurement must be made following a procedure where the stockings have been removed and need to be reapplied e.g. following surgery.

**Rationale**

Legs resting on the bed will give an inaccurate calf measurement. This will result in insufficient external support if the stocking is too big or tourniquet effect if the stocking is too small.

The calf and thigh circumference will enable you to determine the size of the stocking to be worn.

The size of the stocking will be in accordance with your measurements and the manufacturers guide.

The leg may develop oedema during surgery.

DO NOT APPLY STOCKINGS TO PATIENTS WITH A THIGH CIRCUMFERENCE LARGER THAN THE MAXIMUM STATED BY THE MANUFACTURER.

If the patient cannot be accurately fitted for stockings, the medical team must be informed immediately and the reason documented in the nursing records.
Application

4.2 Follow the manufacturer’s instructions. This will be clearly documented on the product packaging. Staff must familiarise themselves with this procedure.

4.3 The top band of the stocking must not be turned down and the stockings should be smooth fitting and wrinkle free.

4.4 Stockings must be removed daily to cleanse and inspect the limbs. The results of the skin inspection should be documented in the Evaluation Record daily.

4.5 The colour, sensation and movement to the toes must be monitored frequently. If the patient complains of pain to the foot or calf or the circulation appears compromised including the red marks on the feet or legs or the skin changes to the heel, remove the stockings and inform the medical staff immediately.

5. MAINTENANCE

5.1 The stockings should be washed at least twice weekly or more often if indicated to promote patient hygiene. They should be washed in hot soapy water and dried away from direct heat (e.g. radiators) as this will cause the stockings to shrink.

6. PALPATION OF PEDAL PULSES

6.1 Anti-embolic stockings work by applying pressure to the leg to aid blood flow within the legs and by preventing veins distending and causing tiny tears in the vein walls.

6.2 However, because the stockings apply pressure to the limb contraindications must be considered. Specially, severe arteriosclerosis or ischaemic vascular disease must be excluded.

6.3 Strong foot pulses are usually indicative of an adequate arterial blood supply. Poor pulses or no palpable foot pulses can indicate poor arterial supply (Magee et al 1992) but are also common if the foot is oedematous or if there is induration (Cameron 1991).

6.4 The location of foot pulses takes some practice.

To locate Dorsalis Pedis pulse

- feel for a foot pulse at the dorsalis pedis artery on dorsum of the foot
- imagine a line from between the great toe and second toe which extends to mid way between the medial and lateral malleolus; roughly half way along this is where the dorsalis pedis lies
- lightly place your fingers over this area and feel for a pulse
- ensure it is the patient’s pulse that is felt and not your own – if there is any doubt take the patient’s pulse at the wrist at the same time
To locate posterior tibialis pulse

An alternative pulse which may be located is the Posterior Tibialis

- this is located at the medial malleolus in the hollow just behind the bone lightly place your fingers over this area and feel for a pulse
- ensure it is the patient’s pulse that is felt and not your own – if there is any doubt take the patient’s pulse at the wrist at the same time

6.5 The posterior tibial is almost always present although the dorsalis pedis can be absent in up to 10% of the healthy population (Rutherford 1989).

6.6 If pedal pulses cannot be palpated or are very poor then the clinician should proceed to perform ankle brachial pressure index to identify arterial impairment.

7. ANKLE BRACHIAL PRESSURE INDEX MEASUREMENT

7.1 The measurement of ankle brachial pressure index is used to identify arterial impairment to the limbs. The procedures compare the arterial pressure in the lower limbs with that in the upper limbs (Yao et al 1969).

7.2 The sensitivity and variability of Doppler pressure readings are well recognised (Vowden 1996, Ray et al 1994). The introduction of a standard procedure will reduce assessor variation and enhance accuracy.

Objective

7.3 To ensure that all patients undergoing ankle brachial pressure measurement are assessed using a standard procedure. This will reduce the risk of assessor variation and enhance the accuracy of arterial pressure measurement using Doppler ultrasound.

Assessment

Equipment Required

- Doppler ultrasound machine 5-8m Hz probe
- sphygmomanometer
- water based gel

7.4 Check that Doppler battery and all connections are working.

7.5 Check that the sphygmomanometer meniscus is visible, that the cuff length is correct and in good condition. If the bladder length is too short or too narrow, the pressure reading will be overestimated (Petrie et al 1992).

The Patient

- explain procedure to patient and obtain consent
- tight restrictive clothing must be removed from arms and legs
- lay the patient in a supine position and rest for 10-20 minutes
• if the patient is unable to lay flat record their position with pressure readings

7.6 Dependency of the limb below heart level will lead to an overestimation of systolic pressure. Raising the limb above heart level will lead to an underestimation of systolic pressure (Petrie et al 1992).

Doppler Signals

7.7 Arterial and venous signals sound quite different
- Arterial signals – pulsatile waves synchronised with the heart rate
- Venous signals – roaring waves sounding like wind rushing through a tunnel

Procedure

• ensure the patient is lying flat
• place cuff around ankle above malleoli, ensuring that the centre of the sphygmanometer bladder is covering the vessel to be compressed
• locate the dorsalis pedis pulse
• apply ultrasound gel over the pulse site and position the Doppler probe to give the best signal (45-60°)
• keep the Doppler probe in this position
• inflate the sphygmomanometer cuff until the pulse signal disappears completely
• slowly deflate the cuff until the pulse signal returns
• record this pressure then fully deflate the cuff
• reposition the cuff at the ankle to ensure the centre of the sphygmanometer bladder is covering the posterior tibial artery
• locate the posterior tibial pulse
• apply ultrasound gel over the area and position the Doppler probe to give the best signal (45-60°)
• keep the Doppler probe in this position
• inflate the sphygmomanometer cuff until the pulse signal disappears completely
• slowly deflate the cuff until the pulse signal returns
• record this pressure then fully deflate the cuff
• repeat the above procedure for other leg recording both dorsalis pedis and posterior tibial readings
• place the cuff around the upper arm
• locate the brachial pulse
• repeat procedure as described above
• repeat the above procedure for the other arm recording brachial pressure
7.8 Repeatedly inflating the cuff, or leaving the cuff inflated for long periods can cause the ankle pressure readings to fall by producing a hyperaemic response (Vowden 1996).

7.9 If there is an irregular pulse (arterial fibrillation) it may be difficult to measure the systolic pressure as it can vary markedly from beat to beat (Vowden 1996).

**Calculating the Ankle Brachial Systolic Pressure (ABPI)**

7.10 The principle of the ABPI is a comparison between the highest ankle pressure and the best estimate of central systolic blood pressure (this is taken to be the higher of the two brachial readings) (Stubbings 1997).

- divide the highest ankle Doppler reading (in each leg) by the highest brachial reading
- repeat for the other leg

This will give a reading in the form of a ratio

For example:

Highest ankle pressure = 120  
Highest brachial pressure = 180

\[
\frac{120}{180} = \text{ratio of 0.66}
\]

**Interpretation of ratio**

7.11 If ABPI is carried out anti embolic stockings should only be applied if the reading is 0.8 or above.

For information

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 or &gt; 1.0</td>
<td>Normal</td>
</tr>
<tr>
<td>0.9 – 1.0</td>
<td>Suspect mild impairment</td>
</tr>
<tr>
<td>0.8 – 0.9</td>
<td>Mild arterial impairment</td>
</tr>
<tr>
<td>0.7 – 0.8</td>
<td>Mild/Moderate impairment</td>
</tr>
<tr>
<td>0.5 – 0.7</td>
<td>Moderate arterial impairment</td>
</tr>
<tr>
<td>&lt;0.5</td>
<td>Severe arterial impairment</td>
</tr>
</tbody>
</table>

7.12 Calcification of the medial layer of the artery can make it resistant to compression and cause a falsely high reading. In some patients the vessels may be totally uncompressible (this is most usually seen in patients with diabetes).

7.13 Ankle brachial pressure index only measures the major arteries and does not measure the pressure in small vessels (this is often seen in diabetic micro angiopathy).
REFERENCES


Vowden K R (1996) Hand held Doppler assessment for peripheral arterial disease, Journal of Wound Care, 5, 3, 125 – 128


* Somerset Community Health acknowledges the work of Louise Vickery, Val Yick, Julie Harland, Suzanne Luxton, Dawn Dunn
## ANTI-EMBOLIC STOCKING ASSESSMENT LEVELS

<table>
<thead>
<tr>
<th>Level 1 (HCA &amp; Student Nurse) (50% of nursing staff on the Ward)</th>
<th>Level 2 (50% of RNs on the Ward Registered Nurse/Practitioner who is at Level 1)</th>
<th>Level 3 (At least 2 RNs per division) Registered Nurse/Practitioner</th>
<th>Level 4 (100% of surgical MNPs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understands the rationale for anti-embolic stockings</td>
<td>1. Understands the assessment and prescription criteria for anti-embolic stockings.</td>
<td>1. Understands the Competency Levels for anti-embolic stocking measuring and application.</td>
<td>1. As part of a Trust Protocol on the palpation of pedal pulses and patient assessment for anti-embolic stockings, Medical Nurse Practitioners and independent prescribers, can assess patients for and prescribe anti-embolic stockings for patients within NHS Somerset. This includes Doppler assessment and performing ankle-brachial pressure indices.</td>
</tr>
<tr>
<td>2. Understands that anti-embolic stockings must be removed at least daily, the limbs examined for reddening or any pressure marking particularly over the bony prominences and heels.</td>
<td>2. Understands all the contraindications for anti-embolic stockings.</td>
<td>2. Understands the Competency Levels for all questionnaires and that all staff who attend training must complete the relevant Competency Level.</td>
<td></td>
</tr>
<tr>
<td>3. Can safely reapply anti-embolic stockings</td>
<td>3. Understands how to measure for anti-embolic stockings with particular reference to:-</td>
<td>3. Understands the requirement that all Competency assessments are sent to the Training and Education Department.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- The pressure profile of the stocking</td>
<td>5. Is able to perform Doppler assessments and ankle-brachial pressure indices.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Selecting the correct stocking size</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Application of the stocking</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Understands that all patients must be given a patient information leaflet and where to access these from.</td>
<td>4.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Understands the evaluation and documentation requirements for measuring, application and evaluation of the limb.</td>
<td>5.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Understands the procedure if anti-embolic stockings cannot be accurately fitted.</td>
<td>6.</td>
<td></td>
</tr>
</tbody>
</table>
COMPETENCIES FOR THE USE OF ANTI EMBOLIC STOCKINGS,
COMPETENCY LEVEL 1

The competencies are to be used in conjunction with:

- Royal Marsden Manual of Nursing Procedures (seventh edition) 2008
- Somerset Partnership NHS Foundation Trust Policies:
  - VTE (Venous Thromboembolism) Policy
  - Medicines Policy
  - Infection, Prevention and Control Policy
  - Assessing Competency in Clinical Practice

The purpose of these competencies is to clarify the knowledge and skills expected of practitioners, to ensure safe practice in competency of Anti-Embolic Stockings, competency level 1.

The self-rating scale is to be used by the individual practitioner for self assessment of present performance during supervised practice, and to help identify learning needs. Their line manager, or other experienced practitioner, must then assess these skills and sign to confirm competency.

Key for Self-Assessment

1 = No knowledge / experience
2 = Some knowledge / experience
3 = Competent
4 = Competent with some experience
5 = Competent, experienced and able to teach others

Author: Nina Vinall, Senior Nurse for Clinical Practice
Date: April 2015
Review: April 2018
Assessment of competence for the use of Anti-Embolic Stockings

Competency Level 1

I confirm that I have self-assessed as competent to practice the use of Anti-Embolic Stockings as below:

Practitioner Name:  

Practitioner Qualification:  

Practitioner Signature:  Date:  

I confirm that I have assessed the named practitioner above as competent to perform the above skill.

Name & Title:  

Signature:  Date:  

Upon successful completion of your assessment of competency please send a copy to Learning and Development, your line manager and retain a copy for yourself.
<table>
<thead>
<tr>
<th>KNOWLEDGE and SKILLS</th>
<th>Self Assessment</th>
<th>Formal Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>for THE USE OF ANTI-EMBOLIC STOCKINGS, LEVEL 1</td>
<td>Score</td>
<td>Tick</td>
</tr>
<tr>
<td>1</td>
<td>What is the rationale for anti-embolic stockings?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>How often must anti-embolic stockings be removed?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>What do you look for on examination of the limbs on removal of stockings?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Has demonstrated that he/she can safely reapply anti-embolic stockings</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>
COMPETENCIES FOR THE USE OF ANTI EMBOLIC STOCKINGS, COMPETENCY LEVEL 2

The competencies are to be used in conjunction with:

- Royal Marsden Manual of Nursing Procedures (seventh edition) 2008
- Somerset Partnership NHS Foundation Trust Policies:
  - VTE (Venous Thromboembolism) Policy
  - Medicines Policy
  - Infection, Prevention and Control Policy
  - Assessing Competency in Clinical Practice

The purpose of these competencies is to clarify the knowledge and skills expected of practitioners, to ensure safe practice in competency of Anti-Embolic Stockings, competency level 2.

The self-rating scale is to be used by the individual practitioner for self assessment of present performance during supervised practice, and to help identify learning needs. Their line manager, or other experienced practitioner, must then assess these skills and sign to confirm competency.

**Key for Self-Assessment**

1 = No knowledge / experience  
2 = Some knowledge / experience  
3 = Competent  
4 = Competent with some experience  
5 = Competent, experienced and able to teach others

Author: Nina Vinall, Senior Nurse for Clinical Practice  
Date: April 2015  
Review: April 2018
Assessment of competence for the use of Anti-Embolic Stockings

Competency Level 2

I confirm that I have self-assessed as competent to practice the use of Anti-Embolic Stockings as below:

Practitioner Name: ............................................................

Practitioner Qualification: ....................................................

Practitioner Signature: .............................. Date: ..................

I confirm that I have assessed the named practitioner above as competent to perform the above skill.

Name & Title: ............................................................... 

Signature: .............................................. Date: ............... 

Upon successful completion of your assessment of competency please send a copy of this page to Learning and Development, your line manager and retain a copy for yourself.
<table>
<thead>
<tr>
<th></th>
<th>KNOWLEDGE and SKILLS for THE USE OF ANTI-EMBOLIC STOCKINGS, LEVEL 2</th>
<th>Self Assessment</th>
<th>Formal Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Score</td>
<td>Tick</td>
</tr>
<tr>
<td>1</td>
<td>Where can you find the Protocol for the Use of Anti-Embolic Stockings?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>What are the assessment and prescription criteria for anti-embolic stockings?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>What are the 5 contraindications for anti-embolic stockings?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Who can measure for anti-embolic stockings?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>How do you measure for anti-embolic stockings?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>stockings?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6</th>
<th>Describe the pressure profile of anti-embolic stockings?</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7</th>
<th>How do you select the correct stocking size?</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KNOWLEDGE and SKILLS for THE USE OF ANTI-EMBOLIC STOCKINGS, LEVEL 2</td>
<td>Self Assessment</td>
<td>Formal Assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Score</td>
<td>Tick</td>
<td>Date &amp; Comments</td>
<td>Signature</td>
<td>Date &amp; Comments</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>How do you apply the stocking?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>What do you do if anti-embolic stockings cannot be accurately fitted?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>On fitting anti-embolic stockings what must you give the patient?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>How do you access anti-embolic stocking Patient Information Leaflets?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>12</td>
<td>How often must you remove anti-embolic stockings?</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>What do you look for on examination of the limb/s on removal of stockings?</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>What must you document in the nursing evaluation and how often?</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
COMPETENCIES FOR THE USE OF ANTI EMBOLIC STOCKINGS, COMPETENCY LEVEL 3

The competencies are to be used in conjunction with:

- Royal Marsden Manual of Nursing Procedures (seventh edition) 2008
- Somerset Partnership NHS Foundation Trust Policies:
  - VTE (Venous Thromboembolism) Policy
  - Medicines Policy
  - Infection, Prevention and Control Policy
  - Assessing Competency in Clinical Practice

The purpose of these competencies is to clarify the knowledge and skills expected of practitioners, to ensure safe practice in competency of Anti-Embolic Stockings, competency level 3.

The self-rating scale is to be used by the individual practitioner for self assessment of present performance during supervised practice, and to help identify learning needs. Their line manager, or other experienced practitioner, must then assess these skills and sign to confirm competency.

Key for Self-Assessment
1 = No knowledge / experience
2 = Some knowledge / experience
3 = Competent
4 = Competent with some experience
5 = Competent, experienced and able to teach others

Author: Nina Vinall, Senior Nurse for Clinical Practice
Date: April 2015
Review: April 2018
Assessment of competence for the use of Anti-Embolic Stockings

Competency Level 3

I confirm that I have self-assessed as competent to practice the use of Anti-Embolic Stockings as below:

Practitioner Name: ............................................................

Practitioner Qualification: ..................................................

Practitioner Signature: ....................................................  Date: ......................

I confirm that I have assessed the named practitioner above as competent to perform the above skill.

Name & Title: .................................................................

Signature: .................................................................  Date: ......................

Upon successful completion of your assessment of competency please send a copy of this page to Learning and Development, your line manager and retain a copy for yourself.
<table>
<thead>
<tr>
<th>KNOWLEDGE and SKILLS for THE USE OF ANTI-EMBOLIC STOCKINGS, LEVEL 3</th>
<th>Self Assessment</th>
<th>Formal Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Score</td>
<td>Tick</td>
</tr>
<tr>
<td>1. How many competency levels are there for anti-embolic stockings?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2. Which competency level should each of the following complete?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>a) HCA .......................................................................</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>b) S/N .......................................................................</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>c) S/N who trains others ........................................</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>d) MNP prescribing ................................................</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>3. Where should the completed competencies be sent for collation?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4. Where can you find the Somerset</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community Health Anti-Embolic Stocking Protocol?</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>5</td>
<td>What are the assessment and prescription criteria for anti-embolic stockings?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>What are the 5 contraindications for anti-embolic stockings?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Who can measure for anti-embolic stockings?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>KNOWLEDGE and SKILLS for THE USE OF ANTI-EMBOLIC STOCKINGS, LEVEL 3</td>
<td>Self Assessment</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Score</td>
</tr>
<tr>
<td>8</td>
<td>How do you measure for anti-embolic stockings?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Describe the pressure profile of anti-embolic stockings</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>How do you select the correct stocking size?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>How do you apply the stocking?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>What do you do if anti-embolic stockings</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>cannot be accurately fitted?</td>
<td>4</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>13</td>
<td>On fitting anti-embolic stockings what must you give the patient?</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>How do you access anti-embolic stocking Patient Information Leaflets?</td>
<td>1</td>
</tr>
<tr>
<td>KNOWLEDGE and SKILLS FOR THE USE OF ANTI-EMBOLIC STOCKINGS, LEVEL 3</td>
<td>Self Assessment</td>
<td>Formal Assessment</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Score</td>
<td>Tick</td>
</tr>
<tr>
<td>15</td>
<td>How often must you remove anti-embolic stockings?</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>What do you look for on examination of the limb/s on removal of stockings?</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>What must you document in the nursing evaluation and how often?</td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>Identify different types of Doppler probe and select correct probe for use.</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>Task Description</td>
<td>Score</td>
</tr>
<tr>
<td>----</td>
<td>----------------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>19</td>
<td>Identifies and names 4 pedal pulses.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>20</td>
<td>Identification of two contraindications to Doppler assessment.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>21</td>
<td>Demonstrates correct positioning of the Doppler probe</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>22</td>
<td>Demonstrates the ability to correctly calculate ankle brachial pressure indices</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>23</td>
<td>Able to identify the referral criteria to either the Tissue viability Team or GP</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>
COMPETENCIES FOR THE USE OF ANTI EMBOLIC STOCKINGS,
COMPETENCY LEVEL 4

The competencies are to be used in conjunction with:

- Royal Marsden Manual of Nursing Procedures (seventh edition) 2008
- Somerset Partnership NHS Foundation Trust Policies:
  - VTE (Venous Thromboembolism) Policy
  - Medicines Policy
  - Infection, Prevention and Control Policy
  - Assessing Competency in Clinical Practice

The purpose of these competencies is to clarify the knowledge and skills expected of practitioners, to ensure safe practice in competency of Anti-Embolic Stockings, competency level 4.

The self–rating scale is to be used by the individual practitioner for self assessment of present performance during supervised practice, and to help identify learning needs. Their line manager, or other experienced practitioner, must then assess these skills and sign to confirm competency.

Key for Self-Assessment
1 = No knowledge / experience
2 = Some knowledge / experience
3 = Competent
4 = Competent with some experience
5 = Competent, experienced and able to teach others

Author: Nina Vinall, Senior Nurse for Clinical Practice
Date: April 2015
Review: April 2018
Assessment of competence for the use of Anti-Embolic Stockings

Competency Level 4

I confirm that I have self-assessed as competent to practice the use of Anti-Embolic Stockings as below:

Practitioner Name: .................................................................

Practitioner Qualification: .............................................................

Practitioner Signature: ........................................... Date: ...............

I confirm that I have assessed the named practitioner above as competent to perform the above skill.

Name & Title: .................................................................

Signature: ........................................... Date: ...............  

Upon successful completion of your assessment of competency please send a copy of this page to Learning and Development, your line manager and retain a copy for yourself
<table>
<thead>
<tr>
<th></th>
<th>KNOWLEDGE and SKILLS for THE USE OF ANTI-EMBOLIC STOCKINGS, LEVEL 4</th>
<th>Self Assessment</th>
<th>Formal Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Score</td>
<td>Tick</td>
</tr>
<tr>
<td>1</td>
<td>Where can you find the Trust Protocol for the palpation of pedal pulses and patient assessment for anti-embolic stockings?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>What clinical conditions would prevent patients from treatment with anti-embolic stockings?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>What should be written in the patient’s medical records?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If pedal pulses cannot be palpated what</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>investigation should be carried out?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>What is the minimum result required for safe use of anti-embolic stockings?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Where can you find the Somerset Community Health Protocol of the Use of Anti-Embolic Stockings?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Who can measure for anti-embolic stockings?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KNOWLEDGE and SKILLS for THE USE OF ANTI-EMBOLIC STOCKINGS, LEVEL 4</td>
<td>Self Assessment</td>
<td>Formal Assessment</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>-----------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Score</td>
<td>Tick</td>
<td>Date &amp; Comments</td>
</tr>
<tr>
<td>8. How do you measure for anti-embolic stockings?</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Describe the pressure profile of anti-embolic stockings?</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. How do you access anti-embolic stocking Patient Information Leaflets?</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Identify different types of Doppler probe and select correct probe for use.</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>12</td>
<td>Identifies and names 4 pedal pulses.</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>Identification of two contraindications to Doppler assessment.</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>Demonstrates correct positioning of the Doppler probe.</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>Demonstrates the ability to correctly calculate ankle brachial pressure indices.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>16</td>
<td>Able to identify the referral criteria to either the Tissue viability Team or GP.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>